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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,170	06/25/2001	Yuuki Matsumura	SONYJP-130	9790
530	7590	02/03/2005	EXAMINER	
LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			SIMITOSKI, MICHAEL J	
			ART UNIT	PAPER NUMBER
			2134	

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Applicati n N .

09/869,170

Applicant(s)

MATSUMURA ET AL.

Examiner

Michael J Simitoski

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-- The MAILING DATE f this c mmunication appears on the c ver sheet with the correspondence address --

## Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 4 and 6-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/25/01.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. The IDS of 6/25/01 was received and considered.
2. Claims 1-15 are pending.

### ***Specification***

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested:

WATERMARKING BASED ON PSYCHOLOGICAL AUDITORY SENSE ANALYSIS.

### ***Claim Objections***

4. Claims 4 & 6-10 are objected to because of the following informalities:

Regarding claim 4, “superimpose” (line 2) should be replaced with “superimposes”.

Regarding claim 6, “comprises” (line 3) should be replaced with “comprising”.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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7. Regarding claims 1, 6 & 11, the limitation “of the time when said input signal has been compressed” is unclear. *For the purposes of this Office Action, “of the time when ...” is understood to mean “before the time ...”.*

8. Claim 1 recites the limitation "said compression processing" in line 7. There is insufficient antecedent basis for this limitation in the claim.

9. Claims 1, 6 & 11 recite the limitation "the psychological auditory sense encoded information" in lines 9, 8-9 & 7-8, respectively. There is insufficient antecedent basis for this limitation in the claims.

10. Regarding claims 2, 7 & 12, “the threshold of audibility” is a relative term, wherein one entity’s threshold of audibility is different than another’s, and is therefore indefinite.

11. Claims 3, 8 & 13 recite the limitation "the audio signal" in line 4. There is insufficient antecedent basis for this limitation in the claims.

12. Claims 3, 8 & 13 recite the limitation "the masking effect" in line 4. There is insufficient antecedent basis for this limitation in the claims.

13. Claim 4 recites the limitation "said compression processing" in lines 3-4 & 5-6. There is insufficient antecedent basis for this limitation in the claim.

14. Regarding claims 4, 9 & 14, the phrases “large compression resistance” and “small compression resistance” are relative and therefore indefinite. *For the purposes of this Office Action, compression resistance is understood to apply to lossy compression.*

15. Claim 6 recites the limitation "the input signal" in line 2. There is insufficient antecedent basis for this limitation in the claim.

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16. Claim 6 recites the limitation "said compression processing" in lines 6-7. There is insufficient antecedent basis for this limitation in the claim.

17. Claims 9 & 14 recite the limitation "said compression processing" in lines 4-5 & 6. There is insufficient antecedent basis for this limitation in the claims.

18. Claim 11 recites the limitation "said compression processing" in line 5-6. There is insufficient antecedent basis for this limitation in the claim.

19. Claim 11 is indefinite because a "program storing medium" doesn't "cause a signal processing device..."; a suggested clarification is "A storage medium comprising program code for directing a signal processing device to perform the steps of ..."

### ***Claim Rejections - 35 USC § 102***

20. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

21. Claims 1-3, 5-8, 10-13 & 15, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by "Robust audio watermarking using perceptual masking" by Swanson et al. (Swanson).

Regarding claims 1, 6 & 11, Swanson discloses performing psychological auditory sense analysis/spectral shaping (p. 3, ¶1 & p. 10, §4) of the survival state/robustness of said input signal (p. 3, ¶1) of the time when said input signal has been compressed (p. 3, ¶1 & p. 6, ¶2), in response to said compression processing (p. 6, ¶2), and outputting the result of the analysis as

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psychological auditory sense encoded information (p. 10, #1-3) and superimposing said digital watermarking information/watermarking on said input signal (p. 10, #7) on the basis of said psychological auditory sense encoded information/power spectrum, frequency masking (p. 10, #1-7 & p. 3, ¶1).

Regarding claims 2, 7 & 12, Swanson discloses the psychological auditory sense analysis information being generated on the basis of the threshold of audibility (p. 2, last ¶ - p. 3, ¶1, p. 5, §3.1 & p. 10, #2).

Regarding claims 3, 8 & 13, Swanson discloses the psychological auditory sense analysis information being generated on the basis of the masking effect of the audio signal (p. 10, #1 & p. 3, ¶1).

Regarding claims 5, 10 & 15, Swanson discloses embedding copyright information relevant to the input signal (p. 1, ¶1).

***Claim Rejections - 35 USC § 103***

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claims 4, 9 & 14, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson, as applied to claim 1 above, in view of "Towards a Telltale Watermarking Technique for Tamper-Proofing" by Kundur et al. (Kundur). Swanson discloses digital watermarking information that has large compression resistance/robustness toward said

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compression processing (p. 2, ¶1-2) on the basis of said psychological auditory sense encoded information/result of spectral shaping (p. 3, ¶1 & p. 10, §4), but lacks digital watermarking information that has small compression resistance toward said compression processing on said input signal. However, Kundur teaches that the goal of fragile watermarking is to embed a watermark in a host signal such that any changes applied to the signal will be indicated by the mark (§2) to detect tampering. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to embed digital watermarking information that has small compression resistance toward said compression processing on said input signal. One of ordinary skill in the art would have been motivated to perform such a modification to detect tampering, as taught by Kundur (§1-2).

### *Conclusion*

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Simitoski whose telephone number is (571) 272-3841. The examiner can normally be reached on Monday - Thursday, 6:45 a.m. - 4:15 p.m.. The examiner can also be reached on alternate Fridays from 6:45 a.m. – 3:15 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached at (571) 272-3838.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, DC 20231

**Or faxed to:**

(703)746-7239 (for formal communications intended for entry)


**Or:**

(571)273-3841 (Examiner's fax, for informal or draft communications, please label "PROPOSED" or "DRAFT")

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
MJS  
January 27, 2005

